

Selection & Specification Data

Generic Type	Epoxy polyamide with corrosion inhibitor (zinc phosphate)
Description	Versatile corrosion resistant coating. Used either as a primer, intermediate coat, or self-priming finish over steel and zinc primers. May be topcoated with itself, or a broad variety of high performance finish coats. Product also has surface tolerant properties. Optional (LT) cure for 35°F cure capability.
Features	- Ready to apply after mixing; no sweat-in time or thinning required. - Economical fit for use epoxy - Available in a variety of rapid tint colors - Attractive low sheen for tank exteriors - Used as a primer, intermediate, or finish coat - Power tool cleaned surfaces acceptable - Optional low temperature (LT) cure Part B - VOC compliant to current AIM regulations
Color	Primer color (0700) gray. Variety of other finish coat colors in rapid tint service. Use Bright White (T800) for tank exterior finish. See Limitations when using (LT) cure.
Finish	Low sheen
Primers	Self-priming. May be applied over zinc rich primers. A mist coat may be required to minimize bubbling over inorganic zinc rich primers.
Topcoats	Acrylics, Alkyds, Epoxies, Polyurethanes
Dry Film Thickness	3.0-5.0 mils (75-125 microns) per coat as a primer or an intermediate. Two coats at 3-5 mils (75-125 microns) per coat may be used direct-to- metal. 4.0-6.0 mils (100-150 microns) per coat as a finish coat over a primer. Do not exceed 10 mils (250 microns) in a single coat. Excessive film thickness over inorganic zincs may increase damage during shipping or erection.
Solids Content By Volume	893 SG: 62% ± 2% 893 SG (LT) 63% ± 2%
Theoretical Coverage Rate	994 mil ft ² (24.4 m ² /l at 25 microns) 331 ft ² at 3 mils (8.1 m ² /l at 75 microns) Allow for loss in mixing and application
VOC Values 893 SG	As supplied: 2.80 lbs./gal (336 g/l) Thinned: 15 oz/gal w/ #10: 3.26 lbs./gal (391 g/l) 16 oz/gal w/ #33: 3.31 lbs./gal (397 g/l) 16 oz/gal w/ #236E 2.80 lbs./gal (336 g/l) 16 oz/gal w/ #243E 2.80 lbs./gal (336 g/l) These are nominal values and may vary slightly with color.

VOC Values 893 SG (LT)

As supplied: 2.65 lbs./gal (318 g/l)
 Thinned:
 15 oz/gal w/ #10: 3.12 lbs./gal (374 g/l)
 16 oz/gal w/ #33: 3.17 lbs./gal (380 g/l)
 16 oz/gal w/ #236E 2.65 lbs./gal (318 g/l)
 16 oz/gal w/ #243E 2.80 lbs./gal (336 g/l)
 These are nominal values and may vary slightly with color.

Dry Temp. Resistance
 Continuous: 200°F (93°C)
 Non-Continuous: 250°F (121°C)
 Discoloration and loss of gloss is observed above 200°F (93°).

Limitations

Epoxies lose gloss, discolor and eventually chalk in sunlight exposure. LT Cure will cause additional discoloration as it weathers and/or ages.

Substrates & Surface Preparation

General

Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.

Steel

For most applications:
 SSPC-SP6 to obtain a blast profile of 1.0-2.0 mils (25-50 microns). May also be applied over SSPC-SP3 for certain applications.

Galvanizing

Galvanizing requires a roughened surface for optimum adhesion/performance of high build epoxies. Remove any contaminants per SSPC SP1; ensure there are no chemical treatments that may interfere with adhesion; and abrade the surface to establish a suitable roughness (typically 1 mil). SSPC-SP7 or SP11 are acceptable methods.

Concrete

Concrete must be cured 28 days at 75°F (24°C) and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require surfacing.

Performance Data

Test Method	System	Results	Report #
ASTM D4541 Adhesion	Blasted Steel 2 ct. 893 SG	1600 psi (Pneumatic)	09453
ASTM D522 Flexibility	Blasted Steel 1 ct. 893 SG	90° bend produced no cracking, ¾" Cylindrical Mandrel Bend	09453

Test reports and additional data available upon written request.

Carboguard® 893 SG (with optional LT Cure)

Application Equipment

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

General Guidelines:

Spray Application (General) The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco.

Conventional Spray Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .070" I.D. fluid tip and appropriate air cap.

Airless Spray

Pump Ratio: 30:1 (min.)*
GPM Output: 2.5 (min.)
Material Hose: 3/8" I.D. (min.)
Tip Size: .017"-.021"
Output PSI: 2100-2300
Filter Size: 60 mesh

*Teflon packings are recommended and available from the pump manufacturer.

Brush & Roller (General) Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or re-rolling. For best results, tie-in within 10 minutes at 75°F (24°C).

Brush Use a medium bristle brush.

Roller Use 3/8" nap phenolic core roller.

Mixing & Thinning

Mixing Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.

Ratio 1:1 Ratio (A to B)

Thinning Normally not required but may thin as follows:
Spray: Up to 15 oz/gal (12%) with Thinner #10.
Brush & Roller: Up to 16 oz/gal (12%) with Thinner #33. Thinner 236E or 243E may be used as an exempt thinner in lieu of those listed above. Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.

Pot Life 4 Hours at 75°F (24°C) for either 893 SG or LT cure. Pot life ends when coating thickens and loses application properties. Pot life times will be less at higher temperatures.

Cleanup & Safety

Cleanup Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

Safety Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

Ventilation When used in enclosed areas, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, use MSHA/NIOSH approved respirator.

Caution This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	60°-85°F (16°-29°C)	60°-85°F (16°-29°C)	60°-90°F (16°-32°C)	0-80%
Minimum	50°F (10°C)	50°F* (10°C)	50°F* (10°C)	0%
Maximum	90°F (32°C)	125°F (52°C)	110°F (43°C)	85%

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions.

- Surface and ambient temperatures may be reduced to 35°F when using the (LT) cure.

Curing Schedule

Surface Temp. & 50% Relative Humidity	Dry to Recoat Or Topcoat		Maximum Recoat Time	
	893 SG	893 SG (LT)	893 SG	893 SG (LT)
35°F (2°C)	NR	24 hours	1 Year	120 days
50°F (10°C)	24 Hours	18 hours	1 Year	120 days
60°F (16°C)	10 Hours	7 hours	1 Year	90 days
75°F (24°C)	7 Hours	6 hours	1 Year	90 days
90°F (32°C)	4 Hours	2 hours	1 Year	90 days

These times are based on a 4.0-6.0 mil (100-150 micron) dry film thickness for atmospheric exposures. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration and may result in a surface haze. Any haze or bluish must be removed by water washing before recoating. If the maximum recoat times have been exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats. For force curing, contact Carboline Technical Service for specific requirements.

Packaging, Handling & Storage

Shipping Weight (Approximate)	<u>2 Gallon Kit</u> 26 lbs. (12 kg)	<u>10 Gallon Kit</u> 127 lbs. (58 kg)
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In White Base (WITE)	<u>1.97 Gallon Kit</u> (Short Filled) Part A	<u>9.84 Gallon Kit</u> (Short Filled) Part A
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Flash Point (Setaflash)	Part A:	75°F (24°C)
	Part B:	75°F (24°C)
	LT Cure Part B:	88°F (31°C)

Storage (General) Store Indoors.

Storage Temperature & Humidity 40° - 110°F (4° - 43°C)
0-100% Relative Humidity

Shelf Life Part A & B: Min. 36 months at 75°F (24°C)

***Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.**



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